TC 61

International Standard ISO 4608

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Plastics — Homopolymer and copolymer resins of vinyl chloride for general use — Determination of plasticizer absorption at room temperature

Plastiques — Résines d'homopolymères et de copolymères de chlorure de vinyle à usages généraux — Détermination de la prise de plastifiant à température ambiante

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 4608 was prepared by Technical Committee ISO/TC 61, *Plastics.*

ISO 4608 was first published in 1977. This second edition cancels and replaces the first edition, of which it constitutes a minor revision.

Plastics — Homopolymer and copolymer resins of vinyl chloride for general use — Determination of plasticizer absorption at room temperature

1 Scope and field of application

This International Standard specifies a method for determining plasticizer absorption **at room temperature.** It is applicable to PVC general-purpose resins (designated "G" in ISO 1060/1, *Plastics — Homopolymer and copolymer resins of vinyl chloride — Part 1: Designation*).

The object of the test is to determine the quantity of plasticizer absorbed by a resin at room temperature to give a dry mixture.

The results give a **general indication** of the plasticizer absorption of the resins at room temperature. They indicate the usefulness of resins for the manufacture of plasticized dry blends, particularly when taken in conjunction with the results of plasticizer absorption tests under hot conditions.

2 Principle

Addition of an excess of di-2-ethylhexyl phthalate (DOP) to a specific amount of resin. Centrifuging of the mixture under defined conditions and calculation of the amount of plasticizer retained by the resin.

3 Reagent

Di-2-ethylhexyl phthalate (DOP).

4 Apparatus

Ordinary laboratory apparatus, and

4.1 Balance, accurate to 0,1 mg.

4.2 Burette, for example 50 ml, graduated in 0,1 ml.

4.3 Centrifuge, whose rotor turns in a horizontal plane and which has an acceleration under the test conditions of 24 500 to 29 500 $m \cdot s^{-2}$ measured at the level of the bottom of the tube, with, if necessary, a cooling system to prevent the temperature of the mixture from exceeding 30 °C at the end of centrifuging for 60 min.

NOTE — It is permissible to use higher acceleration to reduce the centrifuging time, for example 34 500 $m \cdot s^{-2}$ and 30 min, provided that it has been verified that the results obtained are equivalent.

4.4 Centrifuge tubes, to fit the centrifuge used, consisting of a tube, usually of glass, with a conical bottom pierced by a hole of about 0,8 mm diameter (see the figure).

4.5 Plastic sheaths, (polyamide, polyethylene, etc.) with a piece of polyvinyl chloride pipe at the bottom to support the centrifuge tube (see the figure).

Dimensions in millimetres

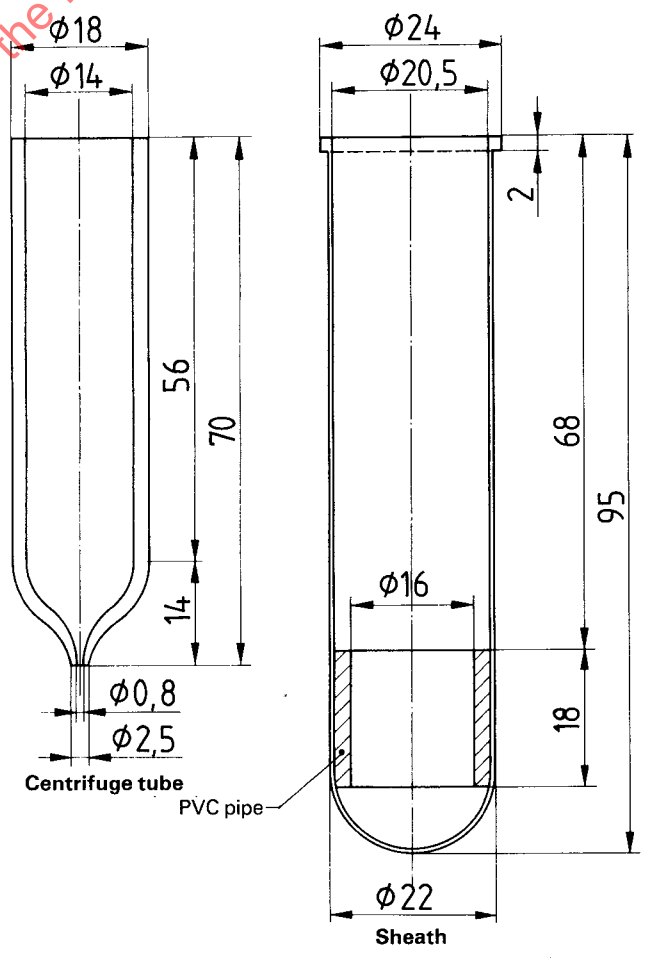

Figure — Example of centrifuge tube and sheath